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ABSTRACT

The report presents a screening and identification model for use with primary children to identify giftedness. The procedure is designed to be objective and employs multiple selection criteria. The Bayesian approach is used as it applies a probability methodology. The steps in instrument development include, among others, a review of the relevant literature and selection of appropriate tests to measure the set of component abilities determined to have the most value. Screening and screening validation phases follow. The model has five innovative and exemplary aspects such as considering the unique and joint efforts of many variables by providing probability scores for each independent variable as well as a probability score for the combined effect of the criteria. The major portion of the document contains charts and graphs of screening instrument data and the teacher check sheet for identification of kindergarten through second grade gifted students. (PHR)

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ED191248

Primary Gifted Education
Title IV-C Project
1837 Vermont
Lawrence, Kansas 66044

PRESENTATION on IDENTIFICATION PROCEDURE

National Association for Gifted Children
Thursday, November 2, 1978
Houston, Texas

Dr. Donald W. Herbel
Director Special Service
USD #497
Lawrence, Kansas 66044

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Lawrence, Kansas 66044

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Primary Gifted Education
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EC130 111

SCREENING & IDENTIFICATION MODEL for TITLE IV-C

PRIMARY GIFTED EDUCATION

1. STATEMENT of OBJECTIVES

A major objective of this project is stated as follows: A procedure for the screening and identification of primary level gifted students with minimal subjectivity will be developed and field tested. Such a procedure will employ multiple selection criteria, taking into account the unique and joint contributions of each criteria.

2. DESCRIPTION of SCREENING and IDENTIFICATION PROCEDURE

Before appropriate treatment can be specified for any exceptional population, the issue of differentiating between those who belong to the target population and those who do not must be addressed. Differentiating gifted students from other students at the primary level is of paramount importance, because the resultant programming and treatment approaches should be specified to meet unique characteristics of gifted. Consequently, a major focus of this project will be to apply an identification procedure that will facilitate effective, yet economical, placement of gifted students into the service model. A two-phased Bayesian approach will be used to identify primary gifted students. Since the application of Bayesian procedures to the identification of gifted populations is relatively new, a brief rationale for its use will be provided below.

3. RATIONALE for SCREENING and IDENTIFICATION PROCEDURE

The identification of primary gifted students is extremely complex, because the presence of any factor by itself is not sufficient to determine that a student is gifted. Identification decisions about gifted students are usually made by specialists with the school setting and are based on an intricate combination of clinical teacher intuition, and psychometric data. Since resulting decisions are probabilistic in nature because completely definite information about the condition is not available, it is logical to apply a probability methodology, such as Bayes, to identification decisions.

Specifically, Bayesian statistics provide a means of quantitatively expressing "the way in which prior convictions about the state of the world are revised on the receipt of new evidence," (Wood). In the field

of gifted education, Bayesian statistical techniques can be used to (1) deal with gifted identification without completely definitive information concerning factors that comprise this condition, (2) revise and update subjective opinion about gifted students as additional data become available, and (3) combine probabilistic information of component abilities of gifted children in a sequential fashion to yield an overall probability statement that identifies such students. Because Bayesian statistics have these capabilities, they appear to provide a potentially powerful means of analyzing data for identification and placement decisions.

4. PROCEDURE for SCREENING and IDENTIFICATION PROCEDURE

The population identification procedure was based on a study presently in progress by Alley and Deshler designed to identify learning disabled students. The same procedural steps used in the Alley-Deshler study was employed in the identification procedures of this project. Those procedural steps are as follows:

a. INSTRUMENT DEVELOPMENT

The purpose of this phase is to weigh characteristics of the greatest importance in identifying gifted students. This phase has nine procedural steps.

(1) Review the literature for a list of component abilities found to be related to primary level gifted students

(2) Conduct a pilot study to determine the completeness and accuracy of the component abilities identified in the literature. Submit the list to eight teachers of gifted and eight parents of gifted students for their analysis.

(3) Construct a questionnaire for the collection of specialist opinions concerning the component abilities.

(4) Submit the questionnaire to 50 specialists for their judgments on each of the component abilities.

(5) Apply Bayes' Theorem to the returns on the questionnaire to determine the weighing of each component ability in the list.

(6) Select appropriate tests to measure the set of component abilities determined to have highest diagnosticity in step #5.

(7) Select a gifted and non-gifted sample in the elementary schools.

(8) Administer tests (selected in step #6) to the gifted and non-gifted samples.

(9) Analyze results from the test administration, establish data, distributions, and determine likelihood ratios for each of the possible tests scores.

b. SCREENING

Regular classroom teachers were provided with a list of the highly weighted characteristics, determined through response to the questionnaire. The teacher was asked to evaluate the students in his/her class in relation to the list of characteristics. Students found to have a sufficient number of highly discriminating characteristics to yield an 85% confidence level of identification will be put through Phase II of the procedure.

c. SCREENING VALIDATION

To validate a student's ability in each of the characteristic areas noted in Phase I, a limited number of psychometric tests of subtests were administered to operationally define the characteristics.

Students who qualify as gifted under both phases of the identification process and meet Kansas State guidelines, will be placed in the project for service, assuming parental and student permission.

This placement procedure has the added advantage of screening all youngsters in the school in an ongoing manner. Moreover, since the placement procedure is not dependent upon a screening at one time during the school year, i.e., the fall, teachers can use it on a continuous basis. Furthermore, the procedure will provide a means of objectively identifying first the most highly gifted students for service. The number selected will be consistent with the intent of the Kansas State plan and federal guidelines for the type and number of youngsters to be served.

When students have qualified for placement via Phases I and II of the screening, the IEP will be initiated.

5. INNOVATIVE and EXEMPLARY ASPECTS of the SCREENING & IDENTIFICATION MODEL

a. This procedure considers multiple selection criterian which reduced the problems of under referral and the possibility of excluding those students who have ability that might not be readily identified by a single standardized means.

b. This procedure considers both the unique and joint effects of many variables by providing a probability score for each independent criteria as well as a probability score for the combined effects of these criteria.

c. In the field of gifted education, Bayesian statistical techniques can be used to deal with gifted information without completely definitive information concerning factors that comprise this condition.

d. This procedure presents the revision and update of a subjective opinion about gifted students as additional data becomes available.

e. This procedure combines probabilistic information of component abilities of gifted children in a sequential fashion to yield an overall probability statement that identifies such students. Because Bayesian statistics have these capabilities, they appear to provide a potentially powerful means of analyzing data for identification and placement decisions.

PRIMARY GIFTED EDUCATION

Title IV-C
183[illegible] Vermont
Lawrence, K[illegible] 66044

Likelihood Ratios (K-6), Probability: 0.97

Is outstanding in math concepts	3.75
Reads at least two years above grade level	4.74
Perceives problems that others may not see	4.00
Displays elaborative thinking, expands exsisting ideas	4.00
Prefers complicated games, rules, and/or assignments	4.00

Likelihood Ratios (K-2), Probability: 0.98

Reads at least two years above grade level	9.00
Is outstanding in understanding math concepts	4.33
Perceives problems that others may not see	4.00
Displays elaborative thinking, expands existing ideas, is flexible	4.00
Prefers complicated games, rules and/or assignments	4.00

The incidence rate for giftedness determined to be 3% total population.

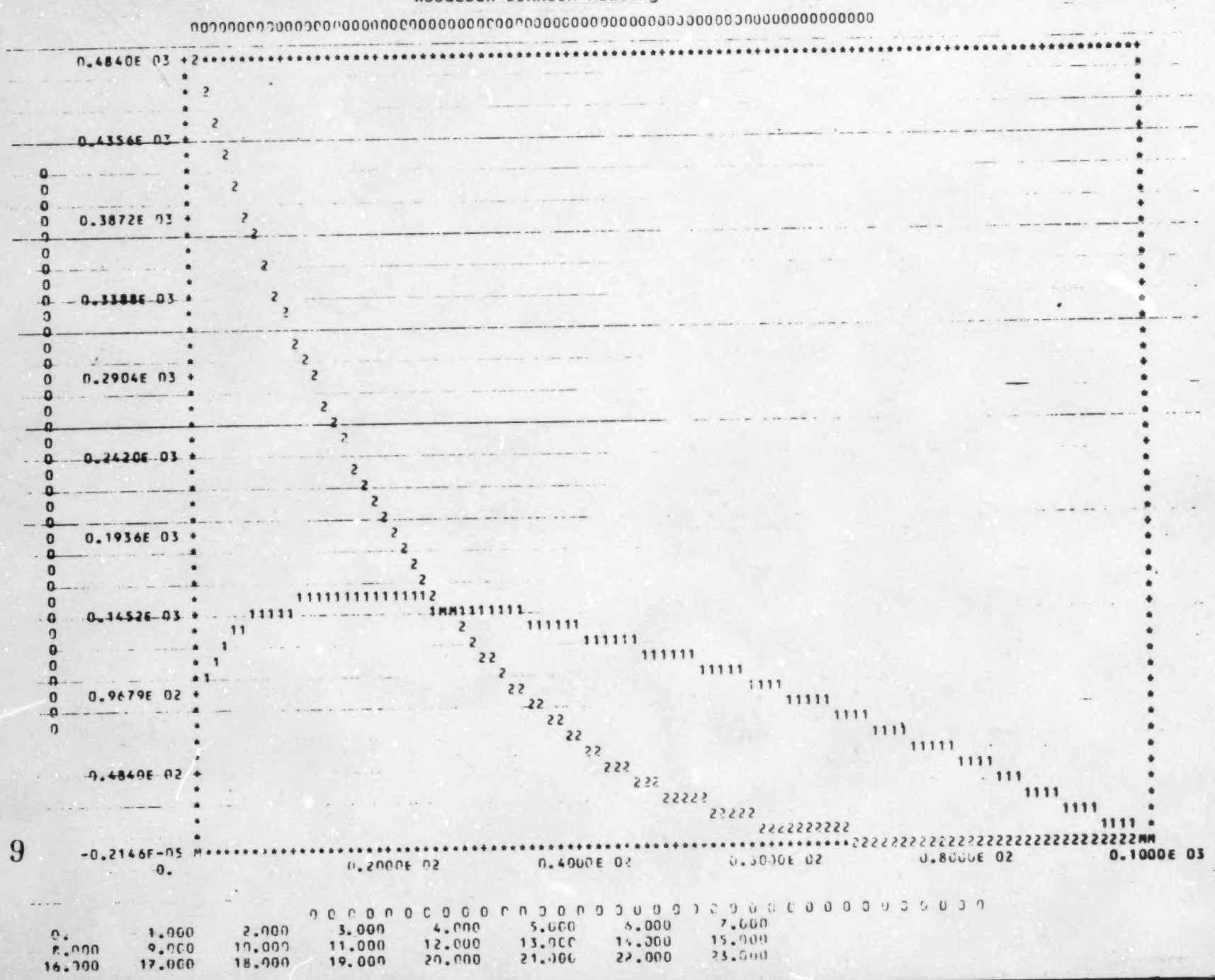
LIKELIHOOD RATIOS
GRA/10-6-78

1. TEST: Woodcock Johnson Reading

RAW-MIN: 106-0

RAW SCORE	LR	RAW SCORE	LR	RAW SCORE	LR
0					
1	.21	41	1.90	81	30.00 *
2	.25	42	2.00	82	30.00 *
3	.28 *	43	2.08 *	83	30.00 *
4	.30	44	2.23 *	84	30.00 *
5	.33	45	2.40 *	85	30.00 *
6	.35	46	2.50 *	86	30.00 *
7	.37	47	2.61	87	30.00 *
8	.40	48	2.67 *	88	30.00 *
9	.43 *	49	2.78 *	89	30.00 *
10	.44	50	3.10 *	90	30.00 *
11	.47 *	51	3.24 *	91	30.00 *
12	.49	52	3.49 *	92	30.00 *
13	.51	53	3.69	93	30.00 *
14	.53 *	54	4.00 *	94	30.00 *
15	.56	55	4.10 *	95	30.00 *
16	.59 *	56	4.56 *	96	30.00 *
17	.62 *	57	4.74	97	30.00 *
18	.65	58	4.78 *	98	30.00
19	.68	59	5.14 *	99	30.00
20	.71	60	5.30 *	100	30.00 *
21	.74	61	6.21	101	30.00 *
22	.77	62	6.38 *	102	30.00 *
23	.78 *	63	7.16	103	30.00 *
24	.85	64	7.69 *	104	30.00 *
25	.89	65	8.25 *	105	30.00 *
26	.94 *	66	9.00 *	106	30.00 *
27	1.00 *	67	9.72		
28	1.02	68	10.00 *		
29	1.07	69	11.45		
30	1.10 *	70	12.46		
31	1.17	71	13.60		
32	1.25 *	72	14.88		
33	1.29 *	73	16.32		
34	1.37 *	74	30.00 *		
35	1.43 *	75	30.00 *		
36	1.48	76	30.00 *		
37	1.54 *	77	30.00 *		
38	1.63	78	30.00 *		
39	1.72	79	30.00 *		
40	1.79 *	80	30.00		

* Estimated Value


Woodcock Johnson Reading
0.4840E 03
0.4356E 03
0.3872E 03
0.3388E 03
0.2904E 03
0.2420E 03
0.1936E 03
0.1452E 03
0.9679E 02
0.4840E 02
-0.2146E-05
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0.000 1.000 2.000 3.000 4.000 5.000 6.000 7.000
8.000 9.000 10.000 11.000 12.000 13.000 14.000 15.000
16.000 17.000 18.000 19.000 20.000 21.000 22.000 23.000

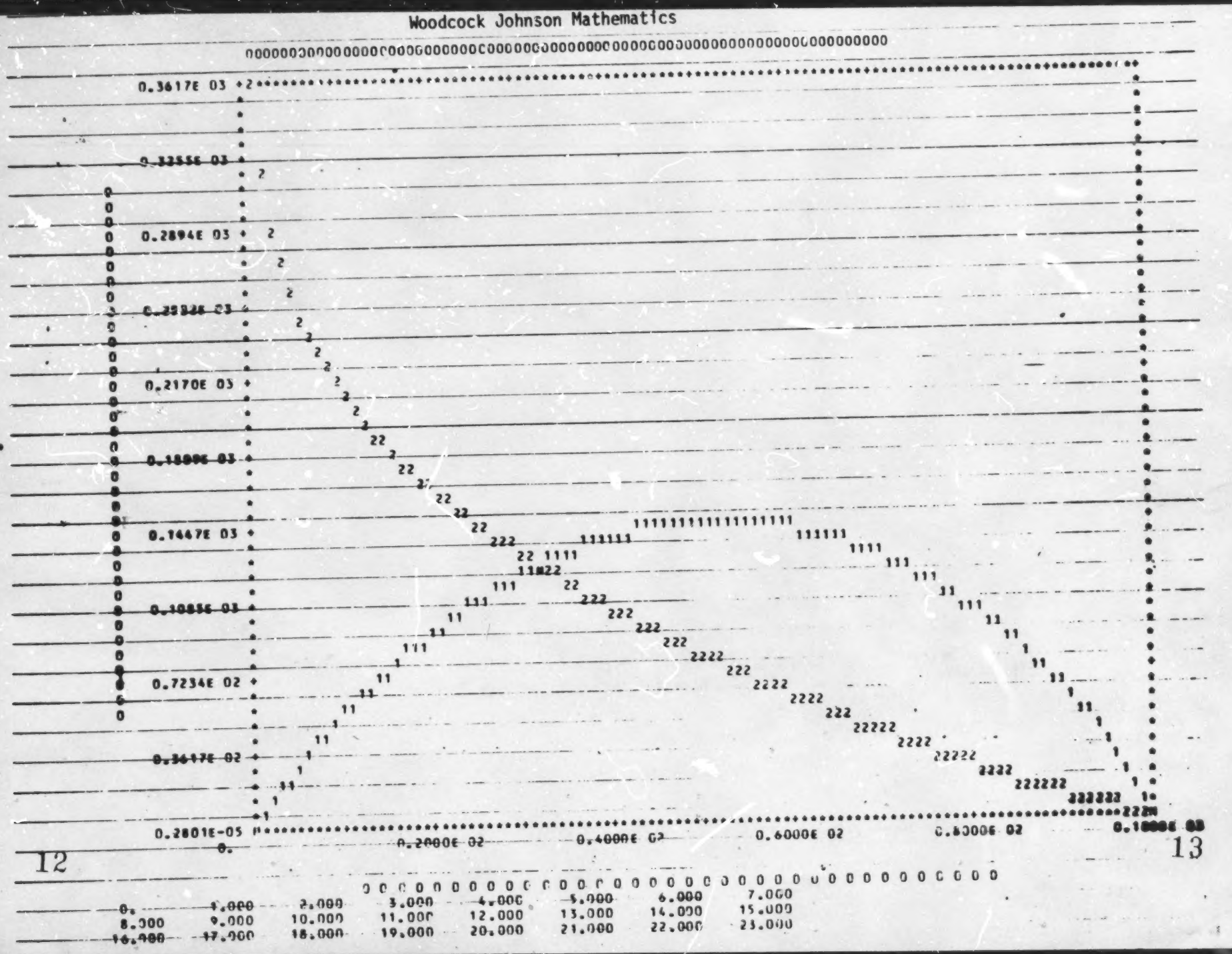
BKH/10-6-75

2. TEST: Woodcock Johnson Mathematics

MAX-MIN: 41-15

RAW SCORE	LR
15	.02
16	.09
17	.19
18	.30
19	.42
20	.54
21	.67
22	.81
23	.96
24	1.11
25	1.27
26	1.44
27	1.61
28	1.80
29	2.01
30	2.22
31	2.46
32	2.71
33	2.99
34	3.31
35	3.75*
36	4.16
37	4.62
38	5.30
39	6.25*
40	9.00*
41	12.72

*. Extrapolated Data


Woodcock Johnson Mathematics
0.3617E 03
0.2894E 03
0.2170E 03
0.1447E 03
0.7234E 02
0.3617E 02
0.2801E-05
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
12
13
0.
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
9.000
10.000
11.000
12.000
13.000
14.000
15.000
16.000
17.000
18.000
19.000
20.000
21.000
22.000
23.000

TEST: Circus A, Thinking it Through

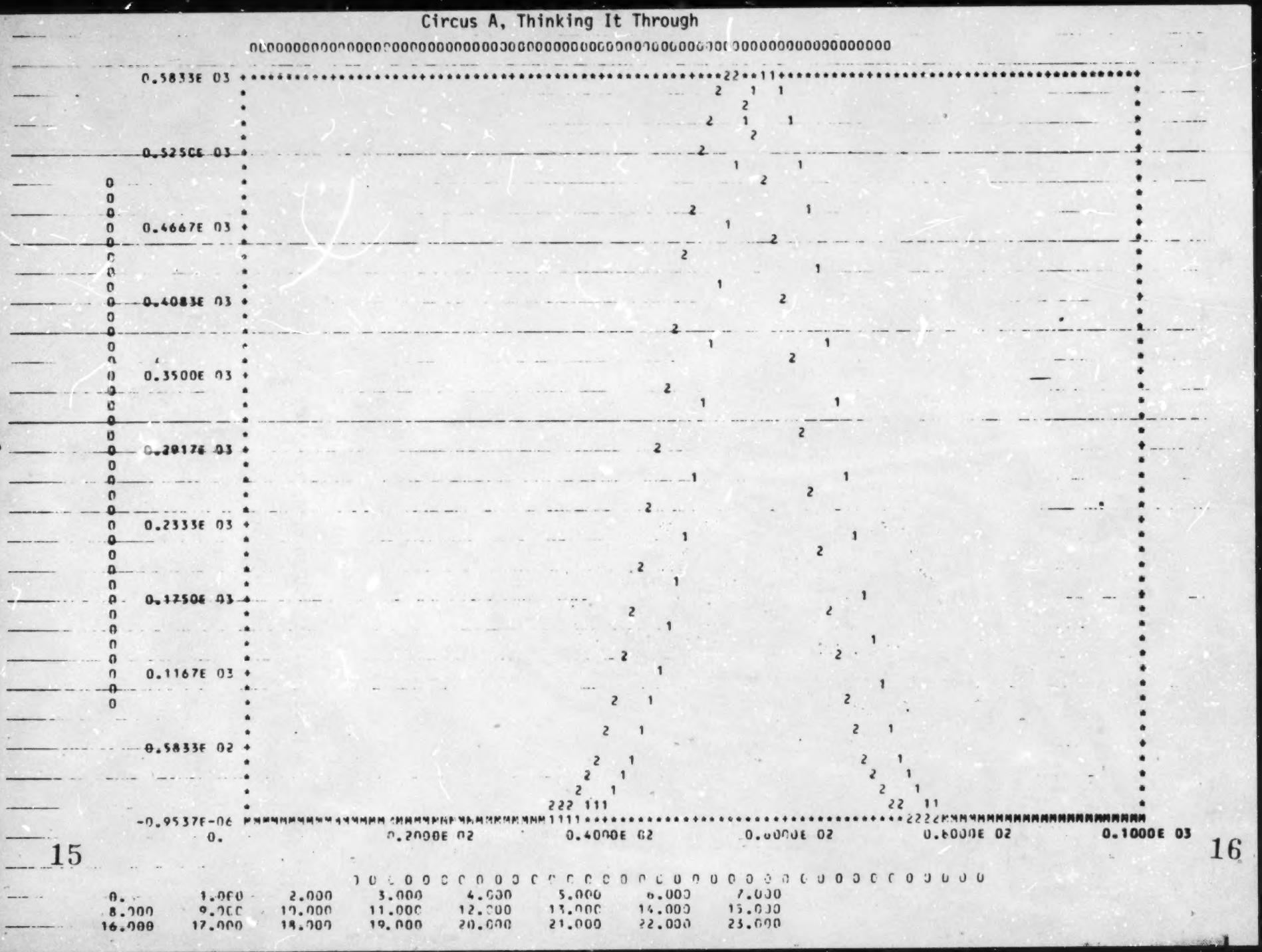
3.

MAX-MIN: 50-0 **

RAW SCORE	LR
0	
1	M *
2	M *
3	M *
4	M *
5	M *
6	M *
7	M *
8	M *
9	M *
10	M *
11	M *
12	M *
13	M *
14	M *
15	M *
16	M *
17	.14
18	.14 *
19	.17 *
20	.23
21	.28
22	.33
23	.40 *
24	.47
25	.56
26	.67
27	.80
28	.96
29	1.16
30	1.40
31	1.70
32	2.07

* Interpolated Data

**Max-Min level was set at 50-0 in order to obtain beta curve.
Real Maximum limit was 32


Circus A, Thinking It Through
0.5833E 03
0.5250E 03
0.4667E 03
0.4083E 03
0.3500E 03
0.2917E 03
0.2333E 03
0.1750E 03
0.1167E 03
0.5833E 02
-0.9537E-06
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
15
16
0.
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
9.000
10.000
11.000
12.000
13.000
14.000
15.000
16.000
17.000
18.000
19.000
20.000
21.000
22.000
23.000

GRA/10-4-78

TEST: Circus F, Thinking it Through

4. MAX_MIN: 31-13

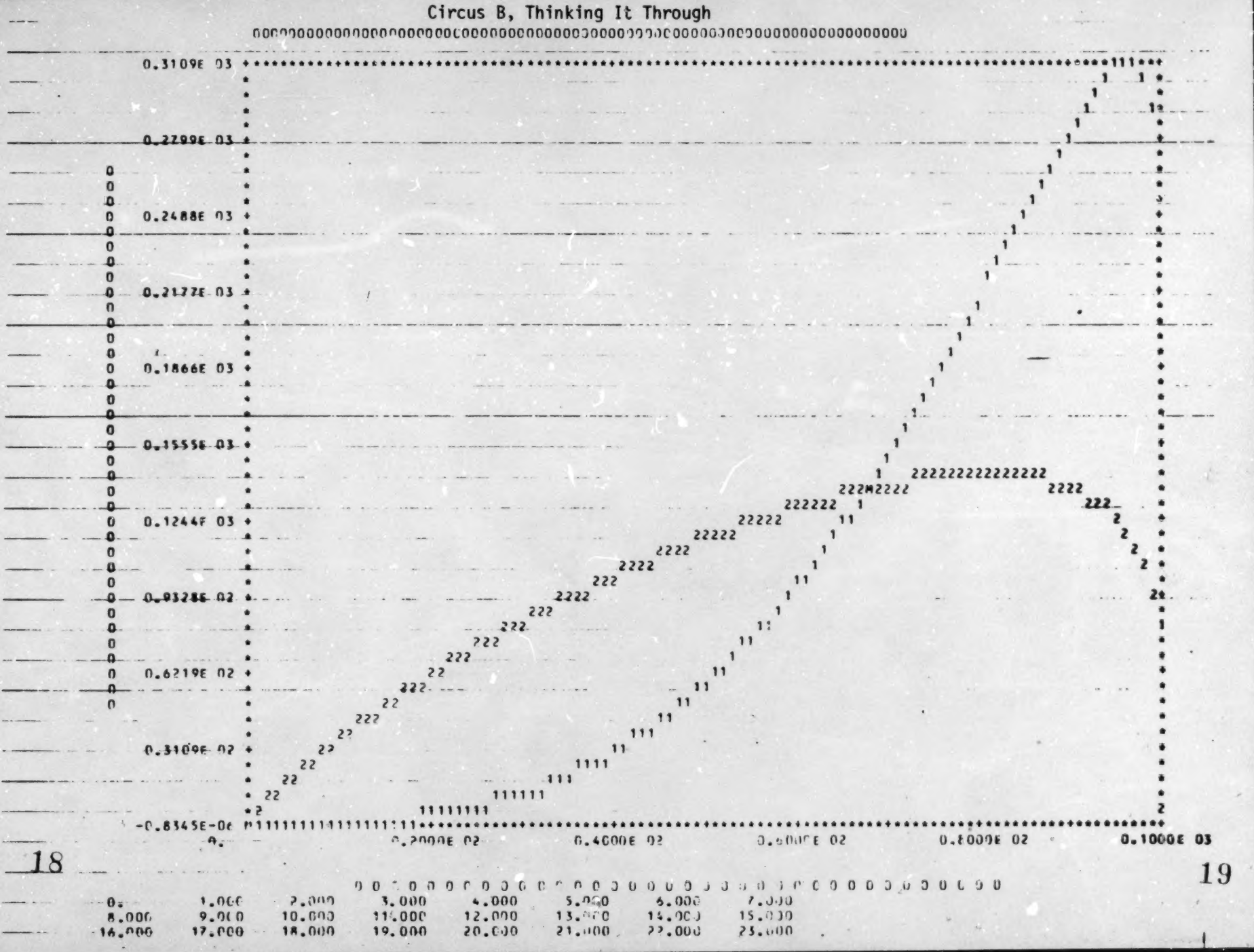
RAW SCORE	LR
13	.00
14	.003*
15	.009*
16	.04
17	.07*
18	.14*
19	.20
20	.28
21	.38
22	.49
23	.63
24	.78
25	.96
26	1.16
27	1.40
28	1.67
29	1.99
30	2.43
31	3.14

5. TEST: Torrance Tests of Creative Thinking, Figural, Form B, Fluency

MAX-MIN: 27-2

RAW SCORE	LR	RAW SCORE	LR
2	.00	21	1.22
3	.01*	22	1.10
4	.05	23	.94
5	.11	24	.78*
6	.15*	25	.46*
7	.26*	26	.24
8	.43*	27	.05
9	.54		
10	.67		
11	.80		
12	.93		
13	1.04		
14	1.15		
15	1.24		
16	1.31		
17	1.35		
18	1.37		
19	1.36		
20	1.31		

*Extrapolated Data


Circus B, Thinking It Through
0.3109E 03
0.2799E 03
0.2488E 03
0.2177E 03
0.1866E 03
0.1555E 03
0.1244E 03
0.9328E 02
0.6219E 02
0.3109E 02
-0.8345E-06
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0.
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
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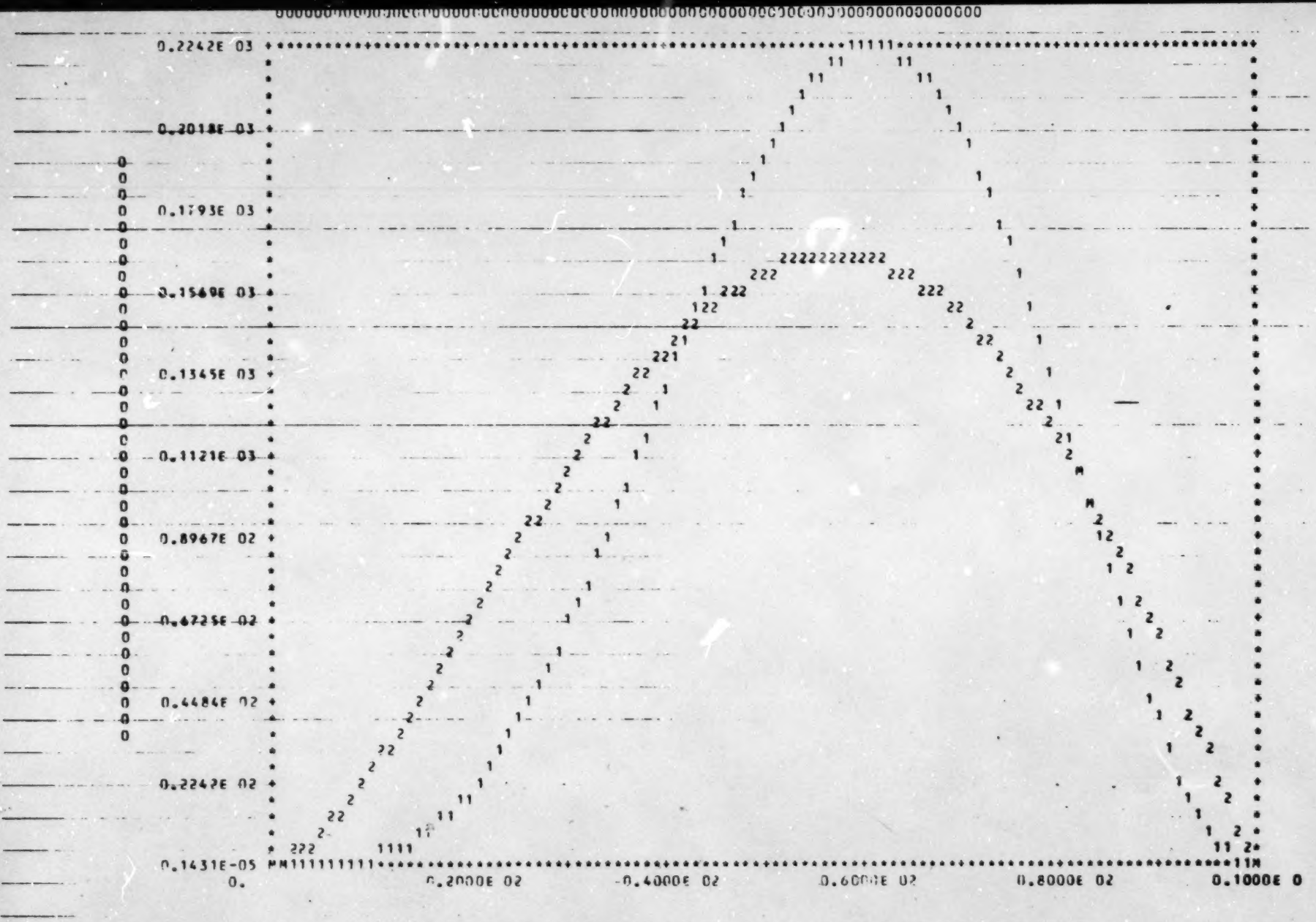


-9-

0.	1.000	2.000	3.000	4.000	5.000	6.000	7.000
8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000
16.000	17.000	18.000	19.000	20.000	21.000	22.000	23.000

20

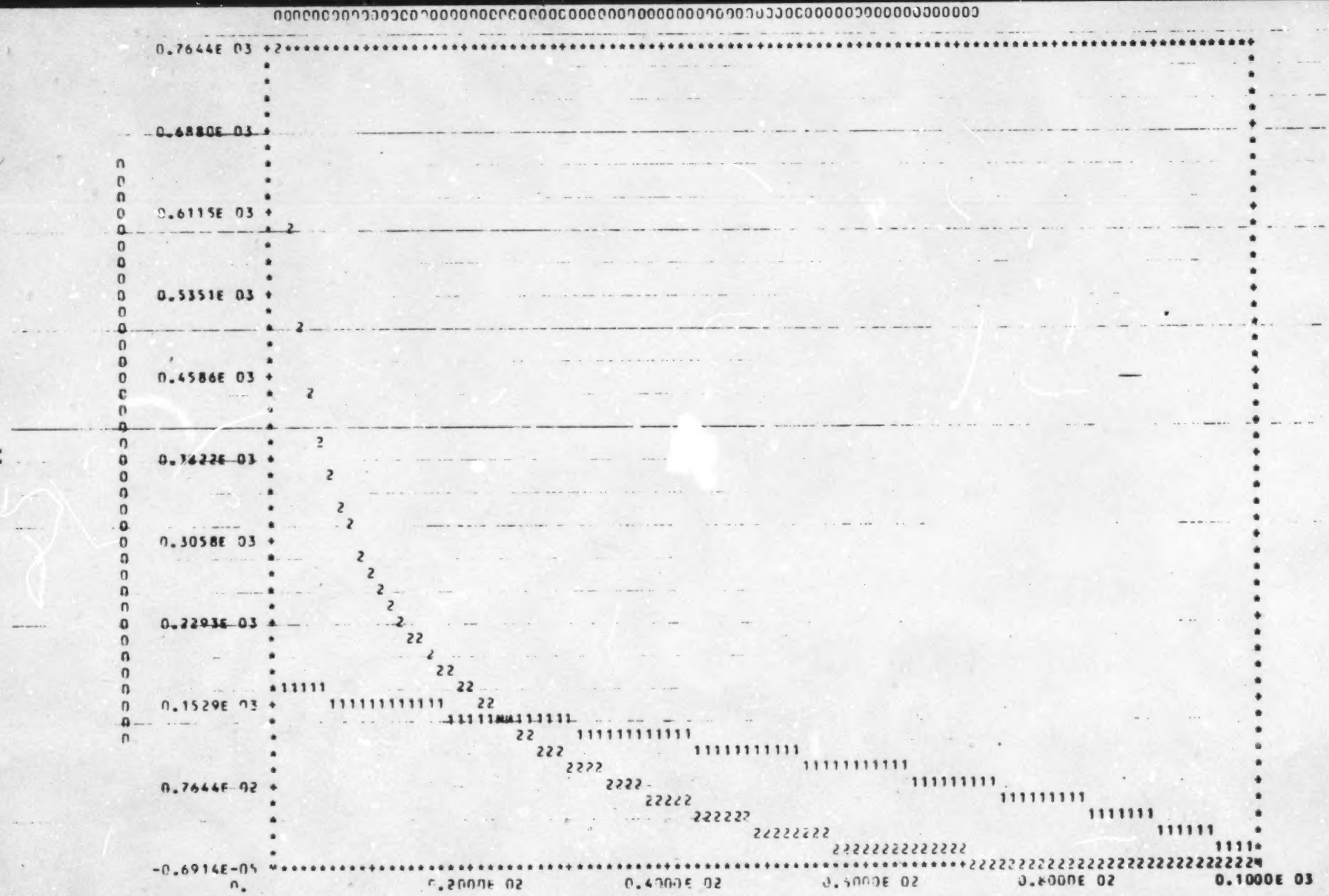
21

TEST: Torrance Tests of Creative Thinking, Figural, Form B, Elaboration

6. MAX-MIN: 73-0

RAW SCORE	IR	RAW SCORE	IR
0	.22	51	9.46
1	.24	52	13.50 *
2	.31	53	13.50 *
3	.37	54	14.00 *
4	.42	55	16.00 *
5	.46	56	17.00 *
6	.50	57	18.61
7	.54	58	21.00 *
8	.59	59	24.62
9	.61 *	60	30.00 *
10	.67	61	30.00 *
11	.72	62	30.00 *
12	.76 *	63	30.00 *
13	.79 *	64	30.00 *
14	.85	65	30.00 *
15	.90	66	30.00 *
16	.92 *	67	30.00 *
17	1.01	68	30.00 *
18	1.12 *	69	30.00 *
19	1.13	70	30.00
20	1.19	71	30.00 *
21	1.26	72	30.00 *
22	1.33	73	30.00
23	1.40		
24	1.48		
25	1.55 *		
26	1.65		
27	1.74		
28	1.84		
29	1.98 *		
30	2.00 *		
31	2.19		
32	2.27 *		
33	2.47		
34	2.67 *		
35	2.79		
36	2.90 *		
37	3.18 *		
38	3.45 *		
39	3.61		
40	3.86		
41	4.14		
42	4.50 *		
43	4.77 *		
44	5.10 *		
45	5.10 *		
46	5.50 *		
47	6.00 *		
48	7.17		
49	7.96 *		
50	9.16 *		

* Extrapolated Data



0.	1.000	2.000	3.000	4.000	5.000	6.000	7.000
8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000
16.000	17.000	18.000	19.000	20.000	21.000	22.000	23.000

GRA/10-8-74

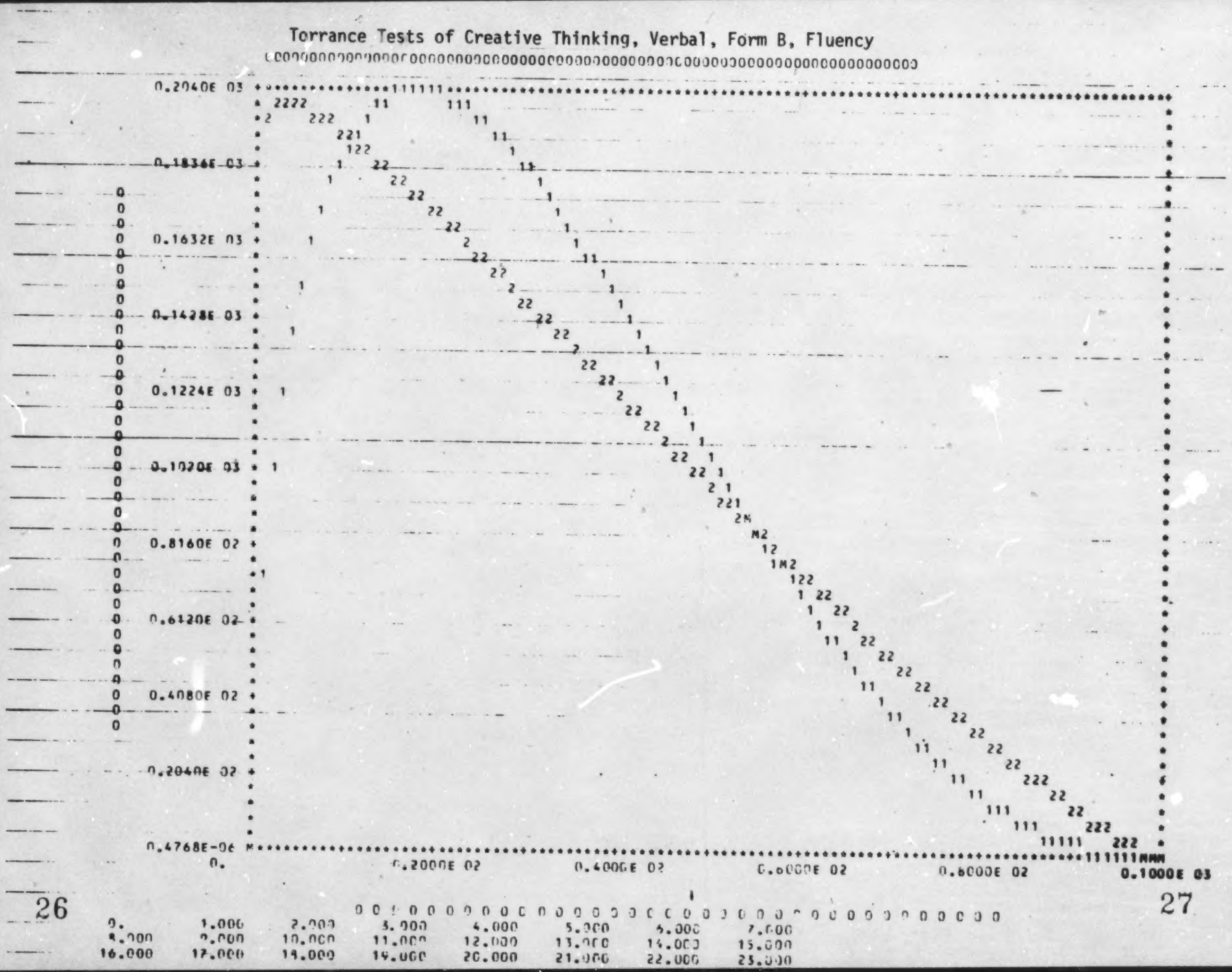
TEST: Torrance Tests of Creative Thinking, Verbal, Form B, Fluency

7. MAX-MIN: 47-0

RAW SCORE	IR
0	.38
1	.53
2	.69*
3	.84
4	.93
5	1.01
6	1.07
7	1.12
8	1.15
9	1.18
10	1.21
11	1.22*
12	1.23
13	1.24
14	1.24
15	1.24
16	1.22*
17	1.22
18	1.21
19	1.19
20	1.17
21	1.15*
22	1.12
23	1.08*
24	1.07
25	1.05*
26	1.00*
27	.97
28	.94*
29	.89
30	.83*
31	.81*
32	.79*
33	.72
34	.69*
35	.60*
36	.58*
37	.49*
38	.47
39	.46*
40	.46*
41	.31
42	.26*
43	.05*
44	.1 *
45	.1 *
46	.1 *
47	.02

25

+ Extrapolated Data


Torrance Tests of Creative Thinking, Verbal, Form B, Fluency
0.2040E 03
0.1836E 03
0.1632E 03
0.1428E 03
0.1224E 03
0.1020E 03
0.8160E 02
0.6120E 02
0.4080E 02
0.2040E 02
0.4768E-06
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0.000 1.000 2.000 3.000 4.000 5.000 6.000 7.000
8.000 9.000 10.000 11.000 12.000 13.000 14.000 15.000
16.000 17.000 18.000 19.000 20.000 21.000 22.000 23.000

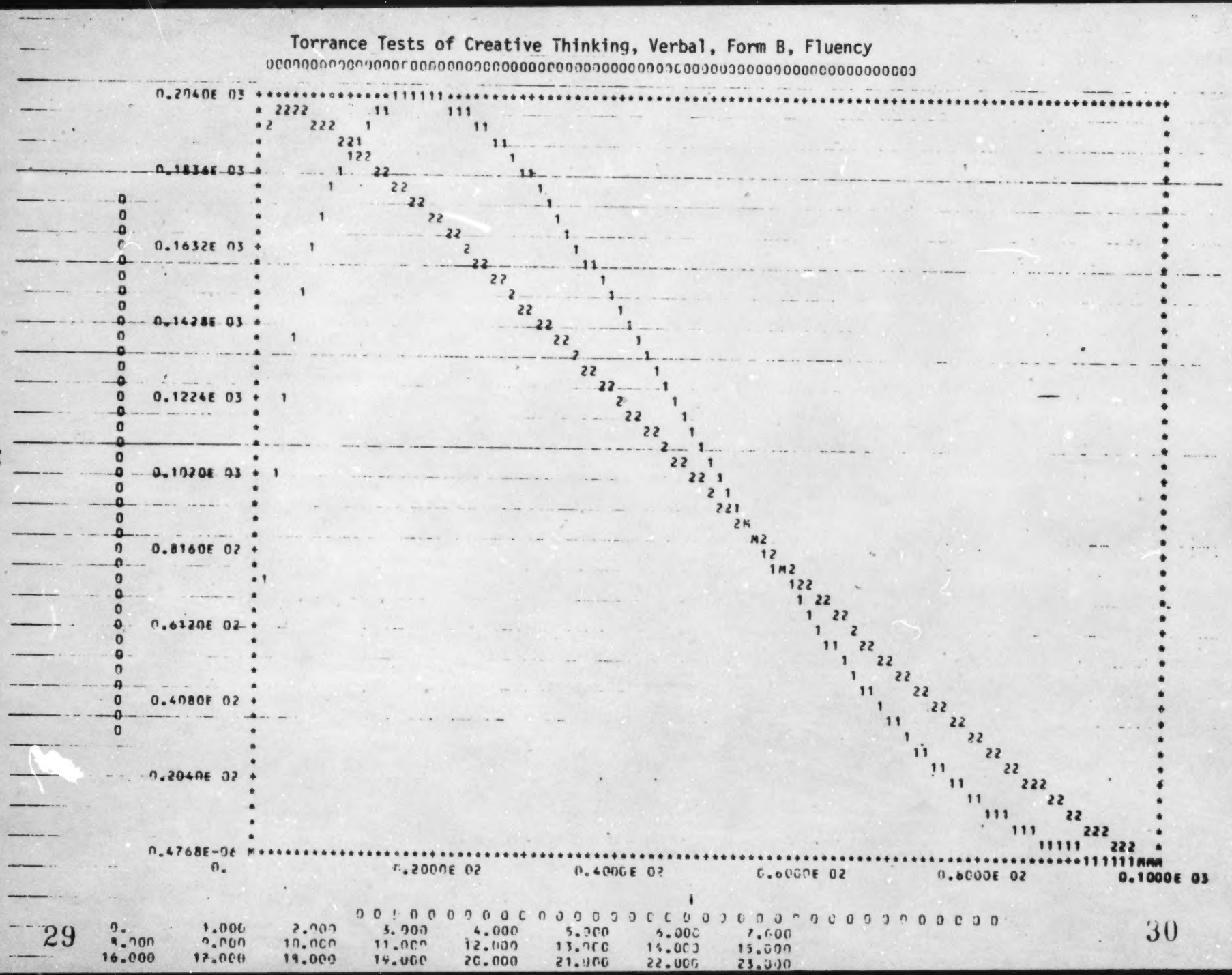
GCR/10-6-78

TEST: Barron Welsh Art Scale, Simplicity

8. MAX-MIN: 2-30

RAW SCORE	LR
30	1.20
29	.99
28	.90
27	.86
26	.84
25	.83
24	.82
23	.82
22	.83
21	.84
20	.85
19	.86
18	.87
17	.89
16	.92
15	1.00*
14	1.00*
13	1.01
12	1.06
11	1.11
10	1.17
9	1.25
8	1.33*
7	1.48*
6	1.66
5	1.66*
4	2.50*
3	4.00*
2	6.93-

* Extrapolated Data


Torrance Tests of Creative Thinking, Verbal, Form B, Fluency
0.2040E 03
0.1836E 03
0.1632E 03
0.1428E 03
0.1224E 03
0.1020E 03
0.8160E 02
0.6120E 02
0.4080E 02
0.2040E 02
0.4768E-06
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0. 1.000 2.000 3.000 4.000 5.000 6.000 7.000
8.000 9.000 10.000 11.000 12.000 13.000 14.000 15.000
16.000 17.000 18.000 19.000 20.000 21.000 22.000 23.000

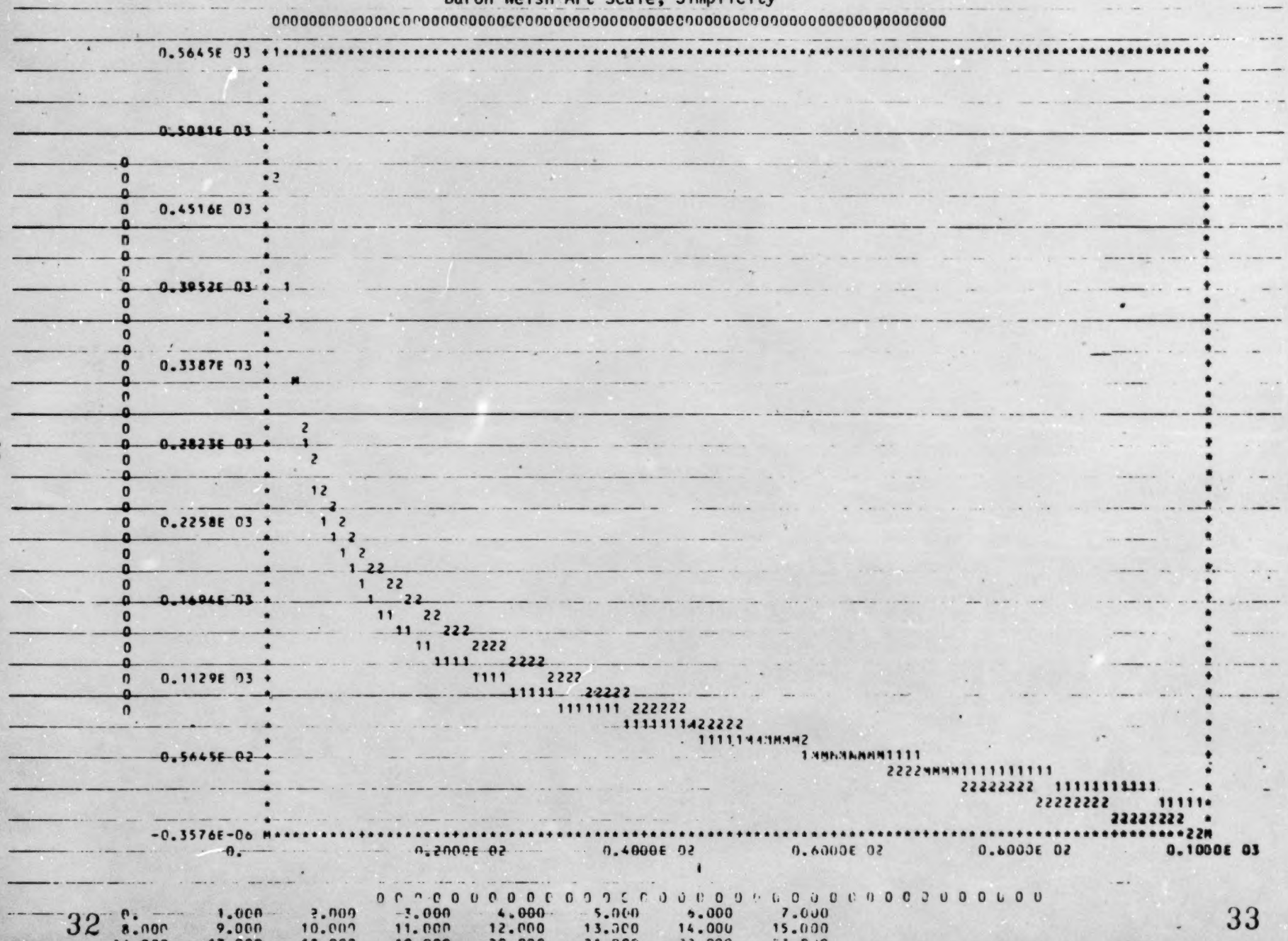
GCP/10-6-78

TEST: Barron Welsh Art Scale, Simplicity

8. MAX-MIN: 2-30

RAW SCORE	LR
30	1.20
29	.99
28	.90
27	.86
26	.84
25	.83
24	.82
23	.82
22	.83
21	.84
20	.85
19	.86
18	.87
17	.89
16	.92
15	1.00*
14	1.00*
13	1.01
12	1.06
11	1.11
10	1.17
9	1.25
8	1.33*
7	1.48*
6	1.66
5	1.66*
4	2.50*
3	4.00*
2	6.93

* Extrapolated Data


Baron Welsh Art Scale, Simplicity
0.5645E 03
0.5081E 03
0.4516E 03
0.3952E 03
0.3387E 03
0.2823E 03
0.2258E 03
0.1694E 03
0.1129E 03
0.5645E 02
-0.3576E-06
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0. 1.000 2.000 3.000 4.000 5.000 6.000 7.000
8.000 9.000 10.000 11.000 12.000 13.000 14.000 15.000
16.000 17.000 18.000 19.000 20.000 21.000 22.000 23.000

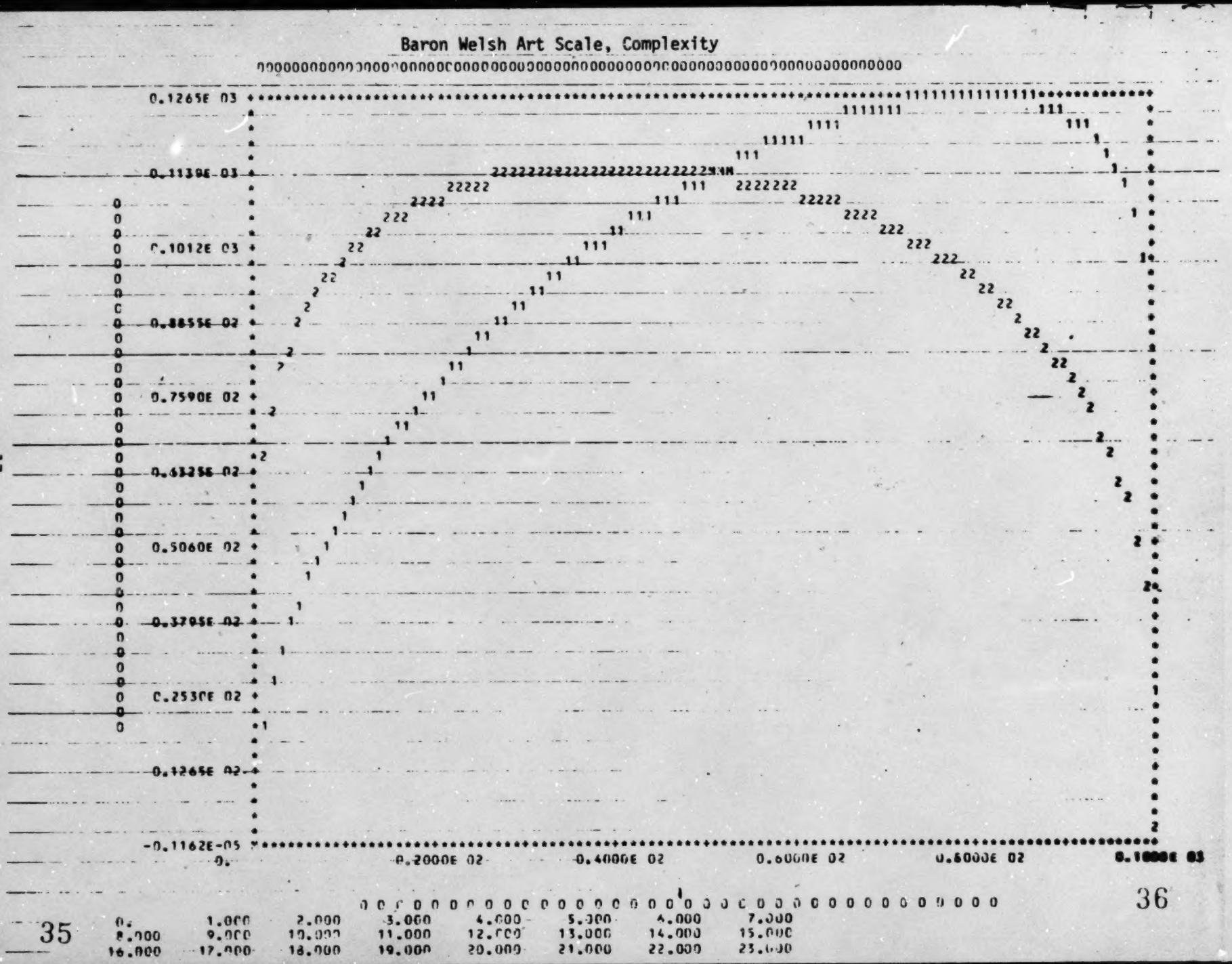
GRA/10-6-7

TEST: Barron Welsh Art Scale, Complexity

9. MAX_MIN: 30-3

RAW SCORE	LR
3	.29
4	.43
5	.51 *
6	..58 *
7	.64
8	..69
9	.73
10	.77
11	.81
12	.84
13	.88
14	.91
15	.94
16	.97
17	1.01
18	1.04
19	1.08
20	1.11
21	1.15
22	1.20
23	1.24
24	1.29
25	1.35 *
26	1.42
27	1.53 *
28	1.64
29	1.88
30	2.38

* Extrapolated Data


Baron Welsh Art Scale, Complexity
0.1265E 03
0.1139E 03
0.1012E 03
0.8855E-02
0.7590E 02
0.6325E 02
0.5060E 02
0.3795E 02
0.2530E 02
0.1265E 02
-0.1162E-05
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0.
1.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
9.000
10.000
11.000
12.000
13.000
14.000
15.000
16.000
17.000
18.000
19.000
20.000
21.000
22.000
23.000

35

36

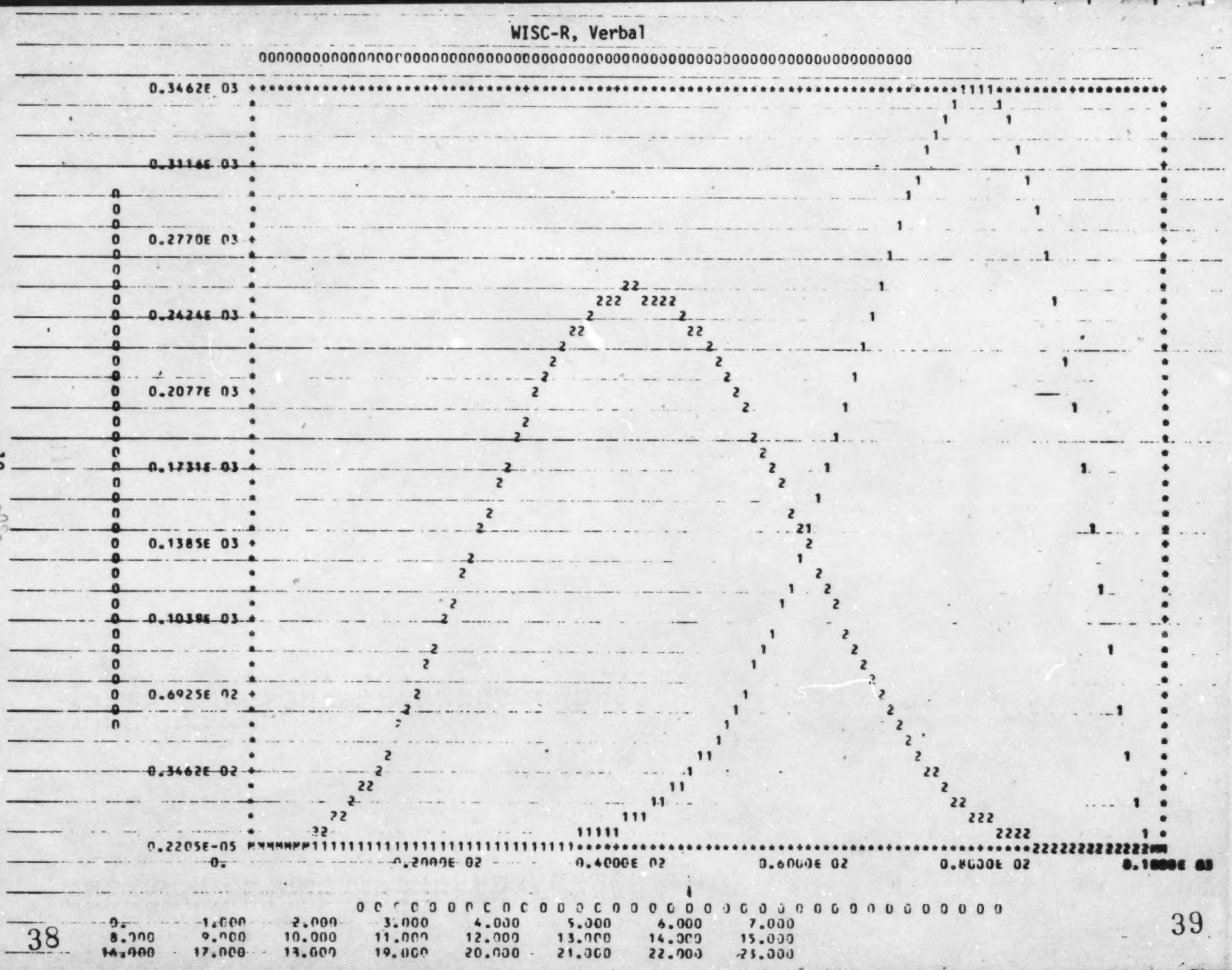
GRA/10-6-78

TEST: WISC-R, Verbal

10. MAX-MIN: 155-75

RAW SCORE	LR	RAW SCORE	LR
75	.00	116	.24
76	.00	117	.29
77	.00	118	.35
78	.00	119	.44
79	.00	120	.51
80	.00	121	.62
81	.00	122	.75
82	.00	123	.91
83	.00	124	1.11
84	.00	125	1.34
85	.00	126	1.69
86	.00	127	1.98
87	.00	128	2.41
88	.00	129	3.18
89	.00	130	3.58
90	.00	131	4.33
91	.00	132	5.37
92	.00	133	6.60
93	.00	134	9.20
94	.00	135	10.11
95	.00	136	12.59
96	.00	137	16.67
97	.00	138	21.74
98	.00	139	25.26
99	.01	140	32.36
100	.01	141	41.88
101	.01	142	46.00
102	.01	143	72.81
103	.01	144	30.00
104	.03	145	30.00
105	.03	146	30.00
106	.03	147	30.00
107	.04	148	30.00
108	.05	149	30.00
109	.06	150	30.00
110	.07	151	30.00
111	.08	152	30.00
112	.11	153	30.00
113	.15	154	30.00
114	.16	155	30.00
115	.19		

* Extrapolated Data


WISC-R, Verbal
0.3462E 03
0.3114E 03
0.2770E 03
0.2424E 03
0.2077E 03
0.1731E 03
0.1385E 03
0.1039E 03
0.6925E 02
0.3462E 02
0.2205E-05
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
-19-
-50-
0. 1.000 2.000 3.000 4.000 5.000 6.000 7.000
8.000 9.000 10.000 11.000 12.000 13.000 14.000 15.000
16.000 17.000 18.000 19.000 20.000 21.000 22.000 23.000

GRB/10-6-78

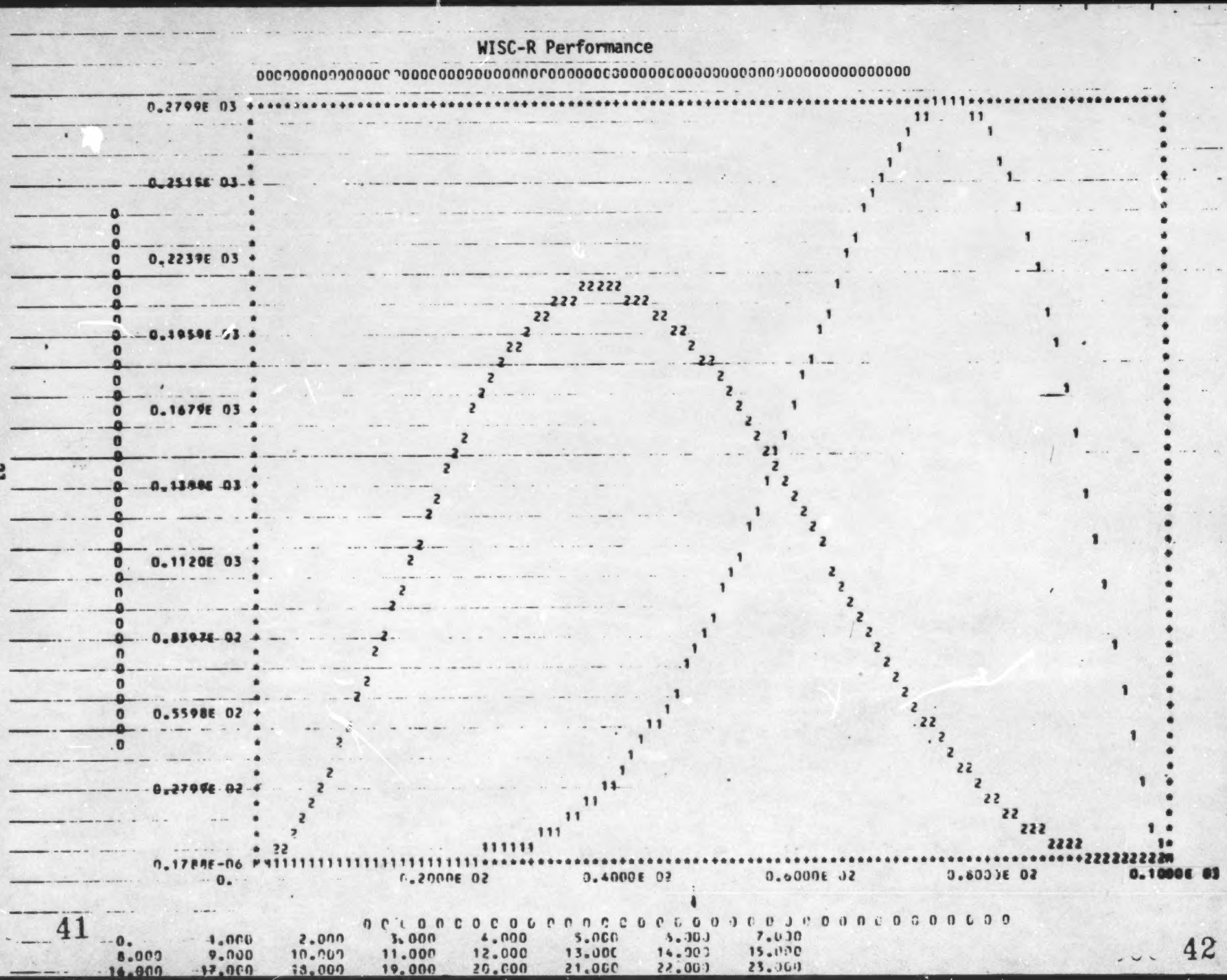
TEST: WISC-R Performance

MAX-MIN: 151-80

11.

RAW SCORE	LR	RAW SCORE	LR
80	.00	131	4.57
81	.00 *	132	5.30
82	.00 *	133	6.16
83	.00 *	134	7.14 *
84	.00 *	135	8.39
85	.00	136	9.85
86	.00 *	137	11.62
87	.00 *	138	13.80
88	.00 *	139	16.50
89	.00	140	20.50 *
90	.00 *	141	26.00 *
91	.00 *	142	34.00 * (S...)
92	.00	143	30.00 *
93	.0004 *	144	30.00 *
94	.0004 *	145	30.00
95	.01	146	30.00 *
96	.01 *	147	30.00 *
97	.01 *	148	30.00 *
98	.02	149	30.00 *
99	.03 *	150	30.00 *
100	.03 *	151	30.00
101	.03 *		
102	.06 *		
103	.06 *		
104	.07		
105	.09		
106	.11		
107	.13 *		
108	.15		
109	.18		
110	.22 *		
111	.25		
112	.29		
113	.31 *		
114	.40		
115	.45 *		
116	.54		
117	.61 *		
118	.72		
119	.83		
120	.96		
121	1.12 *		
122	1.28		
123	1.47		
124	1.69		
125	1.89 *		
126	2.25 *		
127	2.56 *		
128	2.97		
129	3.42		
130	3.95		

* Extrapolated Data


WISC-R Performance
0.2799E 03
0.2515E 03
0.2239E 03
0.1959E 03
0.1679E 03
0.1398E 03
0.1120E 03
0.8392E 02
0.5598E 02
0.2796E 02
0.1788E-06
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0.
4.000
2.000
3.000
4.000
5.000
6.000
7.000
8.000
9.000
10.000
11.000
12.000
13.000
14.000
15.000
16.000
17.000
18.000
19.000
20.000
21.000
22.000
23.000

41

42

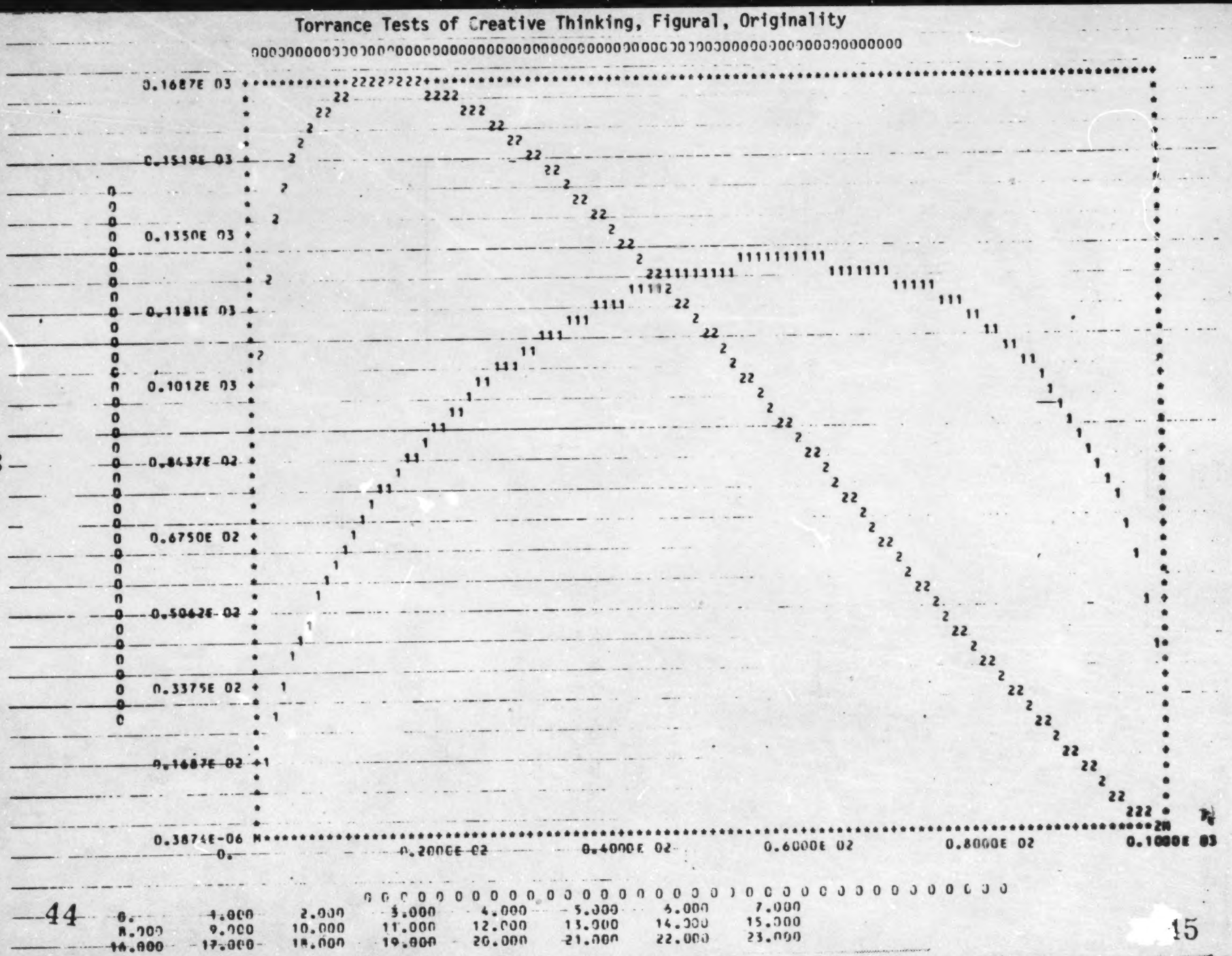
GRA/10-6-78

TEST: Torrance Tests of Creative Thinking, Figural, Originality

12. MAX-MIN: 54-0

RAW SCORE	LR
0	.17
1	.22*
2	.26
3	.31
4	.34
5	.38
6	.41*
7	.43
8	.46
9	.50*
10	.52
11	.55
12	.57
13	.60*
14	.63
15	.66
16	.69
17	.72
18	.75
19	.79*
20	.82
21	.86
22	.89
23	.93
24	.98
25	1.03*
26	1.06*
27	1.12
28	1.17
29	1.27*
30	1.28
31	1.36*
32	1.42
33	1.52*
34	1.58
35	1.68*
36	1.76*
37	1.88
38	1.95*
39	2.14
40	2.30
41	2.48
42	2.69
43	2.93
44	3.00*
45	3.57
46	3.88*
47	4.29*
48	5.27
49	6.26
50	8.00*
51	10.08
52	20.00*
53	27.69
54	48.59

43


Torrance Tests of Creative Thinking, Figural, Originality
0.1687E 03
0.1519E 03
0.1350E 03
0.1181E 03
0.1012E 03
0.8437E 02
0.6750E 02
0.5062E 02
0.3375E 02
0.1687E 02
0.3874E-06
0.
0.2000E 02
0.4000E 02
0.6000E 02
0.8000E 02
0.1000E 03
0. 1.000 2.000 3.000 4.000 5.000 6.000 7.000
8.000 9.000 10.000 11.000 12.000 13.000 14.000 15.000
16.000 17.000 18.000 19.000 20.000 21.000 22.000 23.000

CALCULATING POSTERIOR PROBABILITIES (G)

$$P\ (H_G\ D_1) \ldots .D_n) = \frac{LR_o \prod_{n=1}^{1} LR}{(LR_o \prod_{n=1}^{1} LR) + 1}$$

where $$LR_o = \frac{P\ (H_G)}{P\ (H_{NG})}$$

EXAMPLE:

TEST	SCORE	LR
Woodcock Johnson Reading	54	4.00
Woodcock Johnson Math	24	1.11
Circus A	30	1.40
Circus B	24	0.78
Torrance Figural Fluency	21	1.26

$$P\ (H_G\ D_1 \ldots .D_n) = \frac{(\frac{.03}{.97})\ (4.00 \times 1.11 \times 1.40 \times .78 \times 1.26)}{(\frac{.03}{.03})\ (4.00 \times 1.11 \times 1.40 \times .78 \times 126) + 1}$$

$$= \frac{(.03)(6.10)}{(.03)(6.10) + 1}$$

$$= \frac{.18}{.18 + 1.00}$$

$$= \frac{.18}{1.18}$$

$$P(H_G) = .15$$

TEST	SCORE	LR
Woodcock Johnson Reading	69	11.45
Woodcock Johnson Math	34	3.31
Think It Through, B	30	2.43
Barron Welsch Complexity	26	1.42
Torrance Originality (Figural Form B)	41	2.48

$$P(H_G D_1 \ldots D_n) = \frac{.03\ (11.45 \times 3.31 \times 2.43 \times 1.42 \times 2.48)}{.03\ (11.45 \times 3.31 \times 2.43 \times 1.42 \times 2.48) + 1}$$

$$= \frac{(.03)(324.33)}{(.03)(324.33) + 1}$$

$$P(H_G) = \frac{9.73}{10.73} = .91$$

TEST	SCORE	LR
Woodcock Johnson Reading	40	1.79
Woodcock Johnson Math	22	0.81
Think It Through, B	23	0.63
Barron Welsh Complexity	17	1.01
Torrance Originality (Figural)	32	1.42

$$P(H_G D_1 \ldots D_n) = \frac{(.03)(1.79 \times .81 \times .63 \times 1.01 \times 1.42)}{(.03)(1.79 \times .81 \times .63 \times 1.01 \times 1.42) + 1}$$

$$= \frac{(.03)(1.31)}{(.03)(1.31) + 1}$$

$$= \frac{(.04)}{1.04}$$

$$P(H_G) = .04$$

TEST: Ross Tests of HIgher Cognitive Processes, Problem Solving

MAX-MIN: 14-0 (3-6 Grades) Corrected for 3rd grade Ross scores.

GRA/9-21-79

RAW SCORE	LR
14	274823.31 *
13	6490.14 *
12	284.43
11	53.66 *
10	14.44
9	5.68
8	2.70
7	1.47
6	0.89
5	0.58
4	0.42
3	0.32
2	0.27
1	0.27
0	0.64 *

*Extrapolated likelihood ratio (LR)

ENTERING KINDERGARTEN
SCREENING INSTRUMENT

Primary Gifted Education
Title IV - C
Lawrence, Kansas 66044

Name _____ Grade _____

School _____ Date _____

The behaviors below are to be checked only if they significantly affect the student's classroom experience. If you have a question about a behavior or have not seen the behavior do not mark it.

____ 1. selects main idea of an oral or written story
____ 2. finds alternative ways of doing things
____ 3. demonstrates different approaches to problem solving
____ 4. can identify the first event in a sequence
____ 5. has concept of time (yesterday, today, week, month)
____ 6. goes beyond original assignments
____ 7. enjoys developing activities and projects
____ 8. recalls specific facts and details
____ 9. likes games and toys
____ 10. changes rules in games or play activities
____ 11. frequently sought for assistance or ideas from other children
____ 12. likes manipulative games
____ 13. makes up number sentences to fit picture problems, know whether to add or subtract
____ 14. enjoys learning games usually more appropriate for older children.
____ 15. takes pride in workmanship
____ 16. likes to restructure an idea or thing
____ 17. reads simple sentences (based on teacher observation)
____ 18. is inquisitive
____ 19. demonstrates need for additional resources
____ 20. prefers self-selection of activities or projects
____ 21. is intensely absorbed when exploring ideas
____ 22. understands and recognizes values of coins (penny, nickle, dime, quarter)
____ 23. has descriptive vocabulary
____ 24. enjoys group activities with other children
____ 25. can understand number sequencing, what number comes before 18? after?
____ 26. is extremely self-critical
____ 27. can formulate and carry out personal plans
____ 28. has many ideas for things to do
____ 29. explains logically his own judgments and decisions
____ 30. is curious about many activities and places

KINDERGARTEN SCREENING INSTRUMENT

Primary Gifted Education
Title IV - C
Lawrence, Kansas 66044

Name _____ Grade _____

School _____ Date _____

The behaviors below are to be checked only if they significantly affect the student's classroom experience. If you have a question about a behavior or have not seen the behavior do not mark it.

____ 1. takes pride in workmanship, but is extremely self-critical

____ 2. likes games and sports activities

____ 3. selects main idea of an oral or written story

____ 4. understands number sequencing, "What number comes before 18, after?"

____ 5. formulates and carries out personal plans

____ 6. reads and comprehends one or two years above grade level as determined by district basal readers

____ 7. curious about many activities and places

____ 8. finds alternative ways of doing things

____ 9. demonstrates different approaches to problem solving

____10. knows and uses time units for hour and half-hour

____11. enjoys learning games usually more appropriate for older children

____12. understands and recognizes values of coins (penny, nickle, dime, quarter)

____13. inquisitive

____14. absorbed intensely when exploring ideas

____15. possesses descriptive vocabulary

____16. enjoys group acitvities with other children

____17. enjoys developing activities and projects

____18. makes up number sentences to fit picture problems, knows whether to add or subtract a problem

____19. recalls specific facts and details

____20. identifies the first event in a sequence

____21. prefers self-selection of activities or projects

____22. generates many ideas for things to do

____23. thinks independently

____24. explains logically his own judgments and decisions

____25. likes to restructure an idea or thing

____26. likes to share discoveries and knowledge with others

____27. changes rules in games or play activities

____28. demonstrates need for additional resources

____29. sought frequently for assistance or ideas from other children

____30. goes beyond original assignment

FIRST LEVEL SCREENING INSTRUMENT

Primary Gifted Education
Title IV - C
Lawrence, Kansas 66044

Name _____ Grade _____

School _____ Date _____

The behaviors below are to be checked only if they significantly affect the student's classroom experience. If you have a question about a behavior or have not seen the behavior do not mark it.

____ 1. likes games and sports activities
____ 2. likes to restructure an idea or thing
____ 3. prefers self-selection of activities or projects
____ 4. explains logically his own judgments and decisions
____ 5. follows written directions
____ 6. knows and uses time units to five minute intervals
____ 7. concentration ability lengthens for activities of own interest
____ 8. uses a logical approach to solve a problem
____ 9. possesses descriptive vocabulary
____ 10. models behaviors and routines quickly and accurately
____ 11. likes to share discoveries and knowledge with others
____ 12. generates many ideas for things to do
____ 13. enjoys games usually more appropriate for older children
____ 14. identifies the first event in a sequence
____ 15. knows basic addition adn subtraction facts through eighteen
____ 16. reads one to two years above grade level as determined by class basal reader
____ 17. thinks independently
____ 18. recalls specific facts and details
____ 19. elaborates details about personal experiences
____ 20. curious about many activities and places
____ 21. finds alternative ways of doing things
____ 22. sought frequently for assistance or ideas from other children
____ 23. formulates and carries out personal plans
____ 24. goes beyond original assignment
____ 25. predicts story outcomes
____ 26. inquisitive
____ 27. counting ability within the hundreds, "What number comes before 187? after?"
____ 28. demonstrates different approaches to problem solving
____ 29. enjoys group activities with other children
____ 30. knows addition and subtraction with regrouping or can formulate correct response with own method

SECOND LEVEL SCREENING INSTRUMENT

Primary Gifted Education Lawrence, Kansas 66044 Title IV-C

Name _____ Grade _____

School _____ Date _____

The behaviors below are to be checked only if they significantly affect the student's classroom experience. If you have a question about a behavior or have not seen the behavior do not mark it.

_____ 1. enjoys games usually more appropriate for older children

_____ 2. generally likes to share discoveries and knowledge with others

_____ 3. reads for information and uses library for independent study

_____ 4. frequently sought for assistance or ideas from other children

_____ 5. finds alternative ways of doing things

_____ 6. understands and interprets simple graphs

_____ 7. goes beyond original assignment

_____ 8. knows 3 place addition and subtraction with regrouping or can formulate response with own method

_____ 9. recalls specific facts and details

_____ 10. reads two years above grade level as determined by group achievement testing

_____ 11. demonstrates divergent thinking processes in problem solving situations

_____ 12. is curious about many activities and places

_____ 13. prefers self-selection of activities or projects

_____ 14. tells many details about experiences

_____ 15. knows basic multiplication facts with "2's", "3's", "5's"

_____ 16. usually enjoys group activities with other children

_____ 17. independent thinkier

_____ 18. has descriptive oral and written vocabulary

_____ 19. explains logically his own judgments and decisions

_____ 20. longer concentration ability for activities of own interest

_____ 21. likes to restructure an idea or thing

_____ 22. is inquisitive

_____ 23. predicts story outcomes

_____ 24. can identify the first event in a sequence

_____ 25. reads and solves word problems independently

_____ 26. uses a logical approach to solve a problem

_____ 27. has many ideas for things to do

_____ 28. can formulate and carry out personal plans

_____ 29. models behaviors and routines quickly and accurately

_____ 30. likes games and sports activities